What is claimed is:

1. An object holding device, comprising:

an object mounting member having a part-spherical base portion and a mounting post portion;

a support assembly constructed and arranged to support said part-spherical base portion;

a cover portion cooperatively arranged with said support assembly to capture said part-spherical base portion;

said support assembly including a piston member that is moveable in response to fluid pressure to apply a clamping force on said part-spherical base portion to clamp said part-spherical base portion in a selected position;

a spring return means for restoring said object mounting member to an unclamped condition when said fluid pressure is not present.

2. The device of claim 1, wherein:

said cover portion includes an upper body member and a lower supporting base member.

3. The device of claim 2, wherein:

said support assembly cooperates with said cover portion defining a separation volume for receipt of fluid pressure.

4. The device of claim 3, wherein:

said cover portion defines a fluid inlet which introduces fluid pressure into the separation volume to exert a force on said support assembly.

5. The device of claim 4, wherein:

said support assembly includes a bias spring and bias plunger positioned with said piston in which the bias plunger has a concave surface contacting a portion of said part-spherical base portion.

6. The device of claim 5, further comprising:

two annular sealing rings positioned in grooves, one located in said cover portion contacting said upper body member and said lower supporting base member, and the other contacting said support assembly and said upper body member.

7. The device of claim 6, wherein:

said part-spherical base portion contains a horizontal diameter passing through the midpoint of said part-spherical base portion.

8. The device of claim 7, wherein:

said part-spherical base portion contacts the upper body member at a location above the horizontal diameter midpoint of said part-spherical base portion.

9. The device of claim 1, wherein:

said support assembly cooperates with said cover portion defining a separation volume for receipt of fluid pressure.

10. The device of claim 9, wherein:

said cover portion defines a fluid inlet which introduces fluid pressure into said separation volume to exert a force on said support assembly.

11. The device of claim 1, wherein:

said support assembly includes a bias spring and bias plunger positioned with said piston in which the bias plunger has a concave surface contacting a portion of said part-spherical base portion.

12. The device of claim 1, wherein:

said part-spherical base portion contacts said cover portion at a location above the midpoint of said part-spherical base portion.